



QUESTIONS AND ANSWERS ABOUT BREASTFEEDING

Why should I breastfeed?

Here are just some of the many good reasons why a woman should breastfeed her baby:

- Breast milk is the most complete form of nutrition for infants. A mother's milk has just the right amount of fat, sugar, water, and protein that is needed for a baby's growth and development. Most babies find it easier to digest breast milk than they do formula.
- Breast milk has agents (called *antibodies*) in it to help protect infants from bacteria and viruses. Breastfed babies are more able to fight off infection and disease, such as diarrhea, ear infections, allergies and asthma. They are sick less often and have fewer visits to health care providers.
- Nursing uses up extra calories, making it easier to lose the pounds of pregnancy. It also helps the uterus to get back to its original size and lessens any bleeding a woman may have after giving birth.
- Breastfeeding lowers the risk of breast cancer and may lower the risk of ovarian cancer.
- Breastfeeding can help a mother to bond with her baby. Physical contact is important to a newborn and can help them feel more secure, and warm and comforted.

More information on the Benefits of Breastfeeding:

www.4woman.gov/breastfeeding/bf.cfm?page=227

How long do I need to breastfeed?

The U.S. Surgeon General recommends that babies be fed with breast milk only - no formula - for the first 6 months of life. It is better to breastfeed for 6 months and best to breastfeed for 12 months. After about 6 months, cereals and other nutrient-rich solid foods should be added to the baby's diet.

Newborns need to nurse often, at least 8 to 10 times in a 24-hour period, and not on any strict schedule. This will stimulate the mother's breasts to produce plenty of milk. Breastfed babies eat more frequently than bottle-fed babies do. This is because breast milk is easier to digest than formula. Solid foods can be introduced when the baby is about 6 months old. Breastfed babies don't need supplements of water, juice, or other fluids. These can interfere with a mother's milk supply if they are introduced in the early months.

Is there any time when a woman should not breastfeed?

Some women think that when they are sick, they should not breastfeed. But, most common illnesses, such as colds, flu, or diarrhea, can't be passed through breast milk. In fact, if a mother is sick, her breast milk will have antibodies in it. These antibodies will help protect her baby from getting the same sickness.

A few viruses can pass through breast milk. HIV, the virus that causes AIDS, is one of them. Women who are HIV positive should not breastfeed.

Sometimes babies can be born with a condition called *galactosemia*, in which they can't tolerate breast milk. This is because their bodies can't break the sugar galactose. Babies with classic galactosemia may have liver problems, malnutrition, or mental retardation. Since both human and animal milk contain the sugar lactose that splits into galactose and glucose, babies with classic galactosemia must be fed a special diet that is free of lactose and galactose.

Nursing mothers should not smoke or take drugs. Some drugs, such as cocaine and PCP, can affect the baby and cause serious side effects. Other drugs, such as heroin and marijuana can cause irritability, poor sleeping patterns, tremors, and vomiting. Babies can become addicted to these drugs.

Sometimes a baby may have a reaction to something the mother eats, but if a mother has eaten a food throughout pregnancy the baby has already become used to the flavor of this food. This doesn't mean the baby is allergic to the mother's milk. If the mother stops eating whatever is bothering her baby, the problem usually goes away on its own.

Is it safe to take medications while breastfeeding?

Most medications have not been tested in nursing women. No one knows exactly how a given drug will affect a breastfed child. Most over-the-counter and prescription drugs, taken in moderation and only when needed, are thought to be safe. You should always check first with a health care provider before taking medicine. With some drugs, you can reduce the baby's exposure by taking them just after nursing or before the child sleeps. Even mothers who must take daily medication for conditions such as epilepsy, diabetes, or high blood pressure may be able to breastfeed.

More information on medications and breastfeeding:

www.4woman.gov/breastfeeding/bf.cfm?page=235

Can I breastfeed if my breasts are small?

Of course! Breast size is not related to the ability to produce milk for a baby. Breast size is determined by the amount of fatty tissue in the breast, not by the amount of milk. Most women, with all sizes of breasts, can make enough milk for their babies.

Will breastfeeding keep me from getting pregnant?

When a woman breastfeeds, her ovaries can stop releasing eggs (or ovulating), making it harder for her to get pregnant. A woman's periods can also stop. But, there are not guarantees that a woman will not get pregnant while she is nursing. The only way to make sure pregnancy does not occur is to use a method of birth control. Most birth control pills are not safe to use when a woman is nursing. The only safe birth control pill to use is the "mini-pill." Talk with your health care provider about what birth control method is best for you to use while nursing.

Will breastfeeding tie me to my home?

Not at all! Breastfeeding can be convenient no matter where you are because you don't have to bring along feeding equipment like bottles, water, or formula. Your baby is all you need. Even if you want to breastfeed in private, you usually can find a woman's lounge or fitting room. If you want to go out without your baby, you can pump your milk beforehand, and leave it for someone else to give your baby while you are gone.

More information on pumping and storing breast milk:

www.4woman.gov/breastfeeding/bf.cfm?page=230

Can I still breastfeed when I go back to work?

With careful planning, you can still breastfeed when you go back to work. If her job allows, a new mother can pump her breast milk a few times during the day and refrigerate or freeze it for the baby to take in a bottle later. Or, some women nurse at night and on weekends and give their babies daytime bottles of formula. A mother's milk production can adapt to this type of schedule.

If your job does not have a lactation program, ask your supervisor or Human Resources department to arrange for your needs. Working mothers who breastfeed need a private, clean space where they can pump milk, a storage place for the milk, and breaks during the day when they can pump milk.

More information on pumping and storing breast milk:

www.4woman.gov/breastfeeding/bf.cfm?page=236

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How much do breastfeeding pumps cost and what kind will I need?

Breast pumps range in price from under \$50 (manual/hand pump or battery powered pumps) to several hundred dollars (electrical and hospital grade pumps). If you're only going to be away from your baby a few hours a week, then you can purchase a hand pump, or one of the less expensive ones. If you're going back to work, it is worth investing in a good quality electric pump. You can purchase these from some retail stores or online, but most are available for purchase or rent through lactation consultants, at local hospitals, or from a breastfeeding organization.

More information on breast pumps:

www.4woman.gov/breastfeeding/bf.cfm?page=236

How can I breastfeed discreetly in public?

You can breastfeed discreetly in public by wearing clothes that allow easy access to your breasts, such as button down shirts. By draping a receiving blanket over your baby and your breast, most people won't even realize that you are breastfeeding. It's helpful to nurse the baby before he/she becomes fussy so that you can get into a comfortable position to nurse. You also can purchase a nursing cover or baby sling for added discretion. Many stores have women's lounges or dressing rooms, if you want to slip into one of those to breastfeed.

If I decide to breastfeed, is there a right way to do so?

There are several tips for making breastfeeding a good experience for both mother and baby. However, you can prevent the most common challenges or problems by following the three most important tips about breastfeeding:

1. Nurse early and often.
2. Nurse with the nipple and the areola (brown area surrounding the nipple) in the baby's mouth, not just the nipple.
3. Breastfeed on demand.

More information on tips for making breastfeeding a good experience:

www.4woman.gov/breastfeeding/bf.cfm?page=228

Does breastfeeding hurt?

Breastfeeding SHOULD NOT hurt. If your baby is latched on and positioned properly, you should not feel pain. The baby's mouth should be wide open, with as much of the areola as far back into his/her mouth as possible. This minimizes soreness for the mother. The baby SHOULD NOT nurse on the nipple only. If you feel pain, the baby is not latched onto your breast properly.

More information on tips for on breastfeeding Know How:

www.4woman.gov/breastfeeding/bf.cfm?page=228

More information on Coping with Breastfeeding Challenges:

www.4woman.gov/breastfeeding/bf.cfm?page=229

Can I give my baby a pacifier if I breastfeed?

Pacifiers and other artificial nipples (like bottles) should not be introduced until your baby has established feeding at your breast - when the baby is 4 to 6 weeks old. Artificial nipples and pacifiers require a different sucking pattern than breastfeeding. The baby is likely to become confused about how to suck at the breast and how to suck from an artificial nipple.

How do I know that my baby is getting enough milk from breastfeeding?

Babies have different eating and diaper habits. But, the common signs that babies are getting enough milk are:

- At least 6 wet diapers a day and 2 to 5 loose yellow stools a day, depending on the baby's age.
- Steady weight gain, after the first week of age.
- Pale yellow urine, not deep yellow or orange.
- Sleeping well, yet baby is alert and looks healthy when awake.

Will my partner be jealous if I breastfeed?

If you prepare him in advance, your partner should not be jealous. Explain that you need his support. You can tell him the important benefits of breastfeeding. Tell him he won't make bottles, so he'll get more rest. Be sure to emphasize how much money he'll save too. Tell him it will cost over \$300 a month to pay for formula - money that could go to bills, savings, or a vacation. You can tell him that breastfeeding will give his child the best start at life, with benefits that can last well into childhood. He can help with changing and burping the baby, sharing chores and by simply sitting with you and the baby to enjoy the special mood that breastfeeding creates.

More information on Family Support:

www.4woman.gov/breastfeeding/bf.cfm?page=239

August 2002



BENEFITS OF BREASTFEEDING

There are many benefits to breastfeeding instead of using formula for an infant. Even if you are able to do it for only a short time, your baby's immune system can benefit from breast milk. Here are many other benefits of breast milk for a mother, her baby, and others:

HEALTH BENEFITS FOR MOM AND BABY INCLUDE:

Nutrition and Growth Benefits

- Breast milk is the most complete form of nutrition for infants. A mother's milk has just the right amount of fat, sugar, water, and protein that is needed for a baby's growth and development. Most babies find it easier to digest breast milk than they do formula.
- As a result, breastfed infants grow exactly the way they should. They tend to gain less unnecessary weight and to be leaner. This may result in being less overweight later in life.
- Premature babies do better when breastfed compared to premature babies who are fed formula.
- Although researchers are not certain, results from some studies show that breastfed children have greater brain development than non-breastfed children.

Enhanced Immune System and Resistance to Infection

- Breast milk has agents (called *antibodies*) in it to help protect infants from bacteria and viruses. Breastfed babies are more able to fight off infection and disease, such as diarrhea, ear infections, allergies and asthma. They are sick less often and have fewer visits to health care providers.
- Breastfed infants' immune systems (the system that helps fight infection) have a better response to immunizations like polio, tetanus, diphtheria, and Haemophilus influenzae, and to respiratory syncytial virus infection, a common infant respiratory infection.
- When you breastfeed, there are no bottles and nipples to sterilize. Human milk straight from the breast is always sterile (or clean).

Reduced Risk for Chronic Diseases

- Although results from studies have been mixed, and more research is needed in this area, many studies show that breastfed infants have lower rates of chronic childhood diseases like **diabetes**, **celiac disease**, **inflammatory bowel disease**, **cancer**, and **allergies** and **asthma**.

Improved Health of Mother

- Nursing uses up extra calories, making it easier to lose the pounds of pregnancy. It also helps the uterus to get back to its original size and lessens any bleeding a woman may have after giving birth.
- Breastfeeding, especially exclusive breastfeeding (no supplementing with formula) delays the return of normal ovulation and menstrual cycles. (However, you should still talk with your health care provider about contraceptive choices.)
- Breastfeeding may lower the risk of breast and ovarian cancer.

EMOTIONAL BENEFITS INCLUDE:

Convenience and Making Your Life Easier

- Breastfeeding saves time and money. You do not have to purchase, measure, and mix formula. There are no bottles to warm in the middle of the night!
- A mother can give her baby immediate satisfaction by providing her breast milk when the baby is hungry.
- Breastfeeding requires mothers to take some quiet relaxed time for themselves and baby.

Positive Feelings

- Breastfeeding can help a mother to bond with her baby. Physical contact is important to a newborn and can help them feel more secure, and warm and comforted.
- Breastfeeding mothers may have increased self-confidence and feelings of closeness and bonding with their infants.

SOCIETAL BENEFITS INCLUDE:

- Total medical care costs for the nation are lower for fully breastfed infants than never-breastfed infants since breastfed infants typically need fewer sick care visits, prescriptions, and hospitalizations.
- Employers benefit because breastfeeding mothers miss less work, as their infants are sick less often. Employer medical costs also are lower and employee productivity is higher.
- Breastfeeding is better for our environment because there is less trash and plastic waste compared to that produced by formula cans and bottle supplies.

April 2002

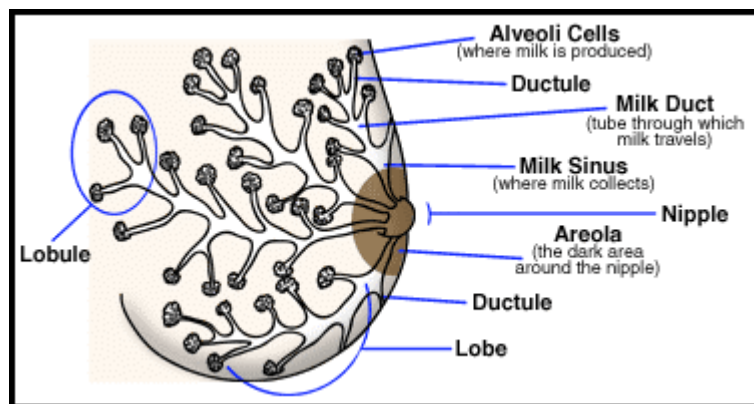


BREASTFEEDING KNOW HOW

How Breast Milk is Made

Anatomy of the Breast

Knowing how the breast is made and how it works to produce milk is helpful in understanding the breastfeeding process. The breast actually begins developing in the first few weeks of gestation, before birth. But the mammary gland, the gland that produces milk, does not become fully functional until lactation begins. When a woman's breasts become swollen during pregnancy, this is a sign that the mammary gland is getting ready to work. The breast itself is a gland that is composed of several parts, including glandular tissue, connective tissue, blood, lymph, nerves, and fatty tissue. Fatty tissue is what mostly affects the size of a woman's breast. Breast size does not have an effect on the amount of milk or the quality of milk a woman produces.



Anatomy of the Breast

Milk is secreted from the **alveoli cells**. When the alveoli cells are stimulated by a hormone, they contract and push the milk into the **ductules** and down into larger **mammary ducts**. These mammary ducts are underneath the **nipple** and **areola** and widen to collect the milk. These widened ducts are called **milk** or **lactiferous sinuses**. When the baby's gums press on the areola and nipple, it is the lactiferous sinuses that are being compressed, squeezing the milk into the baby's mouth. The nipple tissue protrudes and becomes firmer with stimulation, which makes it more flexible and easier for the baby to grasp in the mouth. In the diagram, you can see that each mammary gland forms a lobe in the breast. Each lobe consists of a single branch of alveoli, milk ducts, and a lactiferous sinus that narrows into an opening in the nipple. Each breast has about 15 to 25 lobes.

The Role of Hormones

Hormones play a key role in breastfeeding. The increase of **estrogen** during pregnancy stimulates the ductules to grow. After delivery, estrogen levels drop and remain low in the first several months of breastfeeding. The increase of **progesterone** during pregnancy also causes the alveoli and lobes to grow. **Prolactin**, also called the "mothering hormone," is another hormone that is increased during pregnancy and adds to the growth of breast tissue. Prolactin levels also rise during feedings as the nipple is stimulated. As prolactin is released from the brain into the mother's bloodstream during breastfeeding, alveolar cells respond by making milk. **Oxytocin** is the other hormone that plays a vital role because it is necessary for the **let-down**, or **milk-ejection reflex** to occur. It stimulates the alveoli cells to contract so the milk can be pushed down into the ducts. Oxytocin also contracts the muscle of the uterus during and after birth, which helps the uterus to get back to its original size and lessens any bleeding a woman may have after giving birth. The release of both prolactin and oxytocin may be responsible in part for a mother's intense feeling of needing to be with her baby.

Tips for Making It Work

Breastfeeding can be a wonderful experience for baby and mom. It's important not to get frustrated if you are having problems. What works for one mother and baby may not work for another, so just focus on finding a comfortable routine and positions for you and your baby. Here are some tips for making it work:

Get an early start. You should start nursing as early as you can after delivery (within an hour or two if it is possible), when the infant is awake and the sucking instinct is strong. Even though your milk won't come in for a few days, your breasts contain a special thick, yellowish fluid called *colostrum*, which helps protect your infant from disease. Don't discard it.

Use proper positioning for baby's mouth and when holding baby. The baby's mouth should be wide open. You can tickle your baby's lips with your nipple to get him/her to open wide. Place the nipple in the baby's mouth as far back as possible, and pull his/her body close to you so his/her tummy is facing and touching your tummy. Be sure the baby's lips and gums are around the areola (the darker-colored area surrounding the nipple). The baby should never be latched onto the nipple only. This reduces soreness for you. If your baby is latched on correctly, his/her lips will be turned out, not pulled in over the gums. You may see your baby's jaw move back and forth and hear low-pitched swallowing noises. Your baby's nose will touch against your breast, but he/she is getting enough air. **REMEMBER: IF IT HURTS, IT'S WRONG. Take the baby off of your nipple and try again.** Break your baby's suction to your breast by gently placing your finger in the corner of his/her mouth.

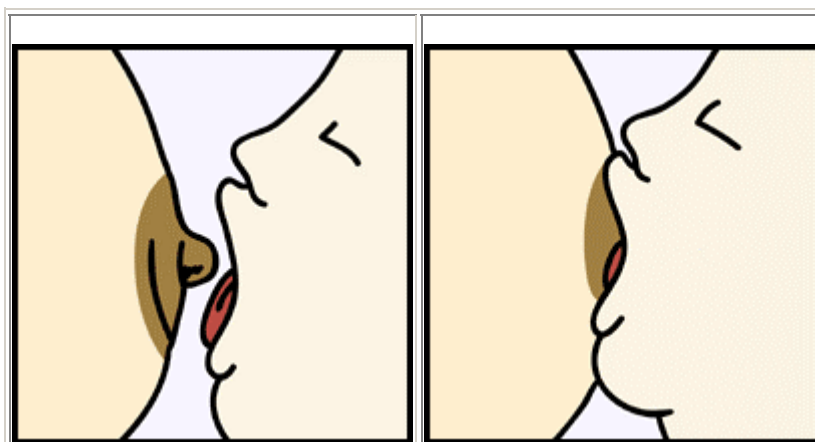


HOW TO BRING BABY TO BREAST:

Tickle baby's lips to open.

When open wide, bring baby to breast so mouth is around both the nipple and areola and baby's tummy is facing your tummy.

When baby is latched on well, his/her nose and chin touch your breast.



PROPER POSITION OF BABY'S MOUTH AROUND NIPPLE:

Note that baby's lips are around the nipple AND the areola, and the nose and chin are touching the breast. Baby's lips are turned out or "flanged," not tucked in.

BREASTFEEDING POSITIONS

Here are several positions in which you can hold your baby while breastfeeding. You can try all of them and choose the one(s) that you and your baby feel most comfortable in. No matter which one you choose, make sure your infant's tummy is facing your tummy. This helps him/her to properly "latch on" to the nipple. Try using pillows under your arms, elbows, neck or back, or under the baby for support.

1. **Cradle** (Easy and commonly used position.)



2. **Cross Cradle, Modified Clutch or Transitional** (Gives baby extra head support, may help them stay on the breast. Good for premature babies or babies with a weak suck or who are having problems latching on.)



3. Clutch or "Football" (Allows mother to better see and control baby's head. Good for mothers with large breasts or inverted nipples which sink in instead of protruding out or laying flat)



4. Side-Lying (Allows mother to rest or sleep while baby nurses. Good for mothers who had a Cesarean section. Puts no pressure on the incision.)



5. Slide-Over (Can help encourage a baby who refuses one breast to nurse on the less-preferred one.)



Nurse on demand. Newborns need to nurse often. Breastfeed at least every 2 hours and when they show signs of hunger, such as being more alert or active, mouthing (putting hands or fists to mouth and making sucking motion with mouth), or rooting (turning head in search of nipple). Crying is a late sign of hunger. Nurse about 10 to 15 minutes on each breast. Breastfed babies can eat more often than bottle-fed babies. This is because breast milk is easier to digest than formula.

Feed your baby only breast milk. Nursing babies don't need water, sugar water or formula. Breastfeed exclusively for about the first six months. Giving other liquids reduces the baby's intake of vitamins from breast milk.

Delay artificial nipples (bottle nipples and pacifiers). A newborn needs time to learn how to breastfeed. It is best to wait until the newborn develops a good sucking pattern before giving her or him a pacifier. Artificial nipples require a different sucking action than real ones. Sucking at a bottle can also confuse some babies when they are first learning how to breastfeed. If, after birth, your baby needs to be taken away from you for a length of time and has to be given formula, ask the nurse to use a syringe or cup when feeding him/her to avoid nipple confusion.

Breastfeed your sick baby during and after illness. Oftentimes sick babies will refuse to eat but will continue to breastfeed. Breast milk will give your baby needed nutrients and prevent dehydration.

Air dry your nipples. Right after birth, until your nipples toughen, air-dry them after each nursing to keep them from cracking. Cracking can lead to infection. If your nipples do crack, coat them with breast milk or other natural moisturizers (like Vitamin E oil and lanolin) to help them heal. It isn't necessary to use soap on your nipples, and it may remove helpful natural oils that are secreted by the **montgomery glands**, which are in the areola. Soap can cause drying and cracking and make the nipple more prone to soreness.

Watch for infection. Signs of breast infection include fever, irritation, and painful lumps and redness in the breast. You need to see a health care provider right away if you have any of these symptoms.

Expect engorgement. A new mother produces lots of milk, making her breasts big, hard and painful for a few days. This is called *engorgement*. When this happens, she should feed the baby often. Her body will, over time, adjust and produce only the amount of milk her baby needs. To relieve engorgement, you can put warm, wet washcloths on your breasts and take warm baths to relieve the pain. If the engorgement is severe, placing ice packs on the breasts between nursings may help. Talk with a health care provider if you have problems with breast engorgement.

Eat right and get enough rest. A nursing mother needs a healthy diet that includes 500 extra calories a day (about 2700 calories total) and 6 to 8 glasses of fluids. This will help her make plenty of good milk for her baby. She also needs to rest as much as she can. This will help prevent breast infections, which are worsened by fatigue.

Women on strict vegetarian diets may need to increase their vitamin B12 intake and should talk with their health care provider. Infants breastfed by women on this type of diet can show signs of not getting enough vitamin B12.

Getting Enough Milk

Most new mothers are concerned about their babies getting enough milk. Babies have different eating and diaper habits. But, the common signs that babies are getting enough milk are:

- At least 6 wet diapers a day (every 24 hours), depending on the baby's age.
- Two to five bowel movements (loose and yellowish) a day (every 24 hours) during the first six weeks. Older babies may have fewer bowel movements.
- Steady weight gain, after the first week of age. From birth to three months, typical weight gain is four to eight ounces per week.
- Pale yellow urine, not deep yellow or orange.
- Sleeping well, yet baby is alert and looks healthy when awake.

Remember that the more often and effectively a baby nurses, the more milk there will be. Breasts produce and supply milk directly in response to the baby's need or demand.

Problems

If you are still having problems breastfeeding after following these tips, it is important to talk with your health care provider or a breastfeeding support person such as a peer counselor or lactation consultant.

April 2002



HOW LIFESTYLE AFFECTS BREAST MILK

Your lifestyle, including your diet and other behaviors, can have an affect on your breast milk, and therefore on your baby. It's important for all nursing mothers to take care of themselves so they can provide the best care to their babies. This includes getting enough rest and proper nutrition so you have enough energy to take care of your baby and avoid illness. Some women think that when they are sick, they should not breastfeed. But, most common illnesses, such as colds, flu, or diarrhea, can't be passed through breast milk. In fact, if a mother is sick, her breast milk will have antibodies in it. These antibodies will help protect her baby from getting the same sickness. Here are some other lifestyle issues that affect breast milk:

Viruses

A few viruses can pass through breast milk. HIV, the virus that causes AIDS, is one of them. Women who are HIV positive should not breastfeed. Also, women with Hepatitis C may be able to transmit the virus through breast milk, but it is not certain. However, bleeding or cracked nipples on the breast of a woman with Hepatitis C puts a breastfeeding infant at higher risk for getting the virus.

Diet

Nutrition

Breastfeeding mothers who have generally good diets produce healthy breast milk for their babies, even when they don't eat well at times. But, chronically undernourished women who have had diets very low in vitamins and minerals, and low stores in their bodies may produce milk that is lower than normal in some vitamins, especially vitamins A, D, B6, or B12. These breastfeeding mothers can help the vitamin levels in their milk return to normal by improving their diets or by taking vitamin supplements. It is recommended that nursing mothers take in about 2700 calories every day (about 500 calories more than a non-pregnant, non-nursing woman). For more information on having a healthy diet, see the *Dietary Guidelines for Americans* (www.health.gov/dietaryguidelines).

Fluids

Many women think they have to drink a lot of fluids to have a good milk supply. This is actually untrue. A nursing woman does, however, need to drink enough fluids to stay well hydrated for her own health and strength to give her baby the best care she can. Always drink when you are thirsty, which is your body's signal that you need fluid. You can make it easy to remember to get enough fluid, if you drink a glass of water or a nutritious beverage (milk or juice) every time you feed your baby.

Caffeine

Many breastfeeding women wonder about how caffeine will affect their baby. Results from studies show that, while excessive caffeine intake (more than five 5 ounce cups of coffee per day) can cause the baby to be fussy and not able to sleep well, moderate caffeine intake (fewer than five 5 ounce cups) usually doesn't cause a problem for most breastfeeding babies.

Allergies

Sometimes a baby may have a reaction to something the mother eats (like spicy foods, foods that can cause gas, or dairy products). Symptoms of an allergy to something in the mother's diet include diarrhea, rash, fussiness, gas, dry skin, green stools with mucus, or the baby pulling up his/her knees and screaming. This doesn't mean the baby is allergic to the mother's milk. If the mother stops eating whatever is bothering her baby, the problem usually goes away on its own.

Here's how to tell if something you are eating is upsetting your baby:

Remember: It takes about two to six hours for your body to digest and absorb the food you eat and pass it into your breast milk.

- So, if you eat dinner at 5:00 P.M., and your baby shows the symptoms listed above around 9:00 P.M., think about what you ate for dinner. To be sure if those foods are causing the problem, you will have to eat them again and see if he/she has the same reaction.
- If your baby seems very fussy, try keeping a record of what you eat and drink.
- Bring the record to your health care provider to talk about a possible link between certain foods and your baby's symptoms.
- If you think a particular food is causing a problem, stop eating it for a while and see if your baby reacts better. You can always try later to introduce that food again into your diet in small amounts. If your baby doesn't seem to react to it anymore, you could add more the next time.

Sometimes a baby can be born with a condition called *primary lactase deficiency* or with *galactosemia*, in which they can't tolerate breast milk. This is because their bodies can't break down *lactose*, a sugar found in the milk of humans and animals. Symptoms include diarrhea and vomiting. Babies with severe galactosemia may have liver problems, malnutrition, or mental retardation. Babies with these conditions must be fed formula that comes from plants, such as soy milk or a special lactose-free formula.

Smoking, Drugs and Alcohol

Smoking

Nursing mothers should not smoke or take drugs. Tobacco from cigarettes contains a drug called nicotine, which transfers to breast milk and may even affect the amount of milk you produce. The risk for **sudden infant death syndrome (SIDS)** becomes greater when a mother smokes or when the baby is around second-hand (or passive) smoke. Smoking and passive smoke may also increase respiratory and ear infections in babies. If you smoke and are breastfeeding, talk to your health care provider about what you can do to quit smoking. If you can't quit, breastfeeding still is best because the benefits of breast milk still outweigh the risks from nicotine.

Illegal Drugs

Some drugs, such as cocaine and PCP, can make the baby high. Other drugs, such as heroin and marijuana can cause irritability, poor sleeping patterns, tremors, and vomiting. Babies can become addicted to these drugs.

Alcohol

Alcohol does get to your baby through breast milk, and has been found to peak in its concentration about 30 to 60 minutes after drinking, or 60 to 90 minutes if it is taken with food. The effects of alcohol on the breastfeeding baby are directly related to the amount of alcohol a mother consumes. Moderate to heavy drinking (2 or more alcoholic drinks per day) can interfere with the **let-down reflex** and the **milk-ejection reflex**. It also can harm the baby's motor development and cause slow weight gain. For this reason, and for the general health of the mother, if alcohol is used, intake should be limited. If you know that you are going to have alcohol, such as some wine with dinner, you can pump your milk beforehand to give to your baby after you have had the alcohol. Then pump and discard the milk that is most affected by the drink(s).

Medications

Most medications have not been tested in nursing women. No one knows exactly how a given drug will affect a breastfed child. Most over-the-counter and prescription drugs, taken in moderation and only when needed, are thought to be safe. You should always check first with a health care provider before taking medicine. To reduce the baby's exposure, you can take the drug just after nursing or before the baby sleeps. Even mothers who must take daily medication for conditions such as epilepsy, diabetes, or high blood pressure may be able to breastfeed.

In general, when breastfeeding it is safe to take:

- acetaminophen (like Tylenol)
- antibiotics
- epilepsy medications (although one, *Primidone*, should be taken with caution - talk with your health care provider about this drug)

- most antihistamines
- aspirin (should be used with caution)
- moderate amounts of caffeine; remember there is caffeine in soda and candy bars
- decongestants
- ibuprofen (like Advil)
- insulin
- quinine
- thyroid medicines
- progestin-only birth control pills (the "mini-pill")

You can go to the American Academy of Pediatrics web site, <http://www.aap.org>, for a more detailed list of drugs and their effect on breast milk.

Medications that are not safe to take when breastfeeding:

Some drugs can be taken by a nursing mother if she stops breastfeeding for a few days or weeks. She can pump her milk and discard it during this time to keep up her supply. During this time, the baby can drink her previously frozen breast milk or formula. These drugs include **radioactive drugs** used for some diagnostic tests like Gallium-67, Copper 64, Indium 111, Iodine 123, Iodine 125, Iodine-131, radioactive sodium, or Technetium-99m, **antimetabolites**, and a few **cancer chemotherapy agents**.

There are drugs that if new mothers have to take them, they need to choose between taking them or breastfeeding. **Some of these drugs that should never be taken while breastfeeding include:**

- Bromocriptine (Parlodel) - a drug for Parkinson's disease, it also decreases a woman's milk supply.
- Cyclophosphamide, Doxorubicin, and most chemotherapy drugs for cancer - these drugs kill cells in the mother's body and may harm the baby.
- Ergotamine (for migraine headaches); Methotrexate (for arthritis); and Cyclosporine (for severe arthritis and psoriasis, aplastic anemia, Crohn's disease, kidney disease, and for after organ transplant surgery).

Drugs whose effects on nursing infants is not known but may be cause for concern include:

- Antianxiety drugs - Alprazolam, Diazepam, Lorazepam, Midazolam, Perphenazine, Prazepam, Quazepam, Temazepam.
- Antidepressant drugs - Amitriptyline, Amoxapine, Bupropion, Clomipramine, Desipramine, Dothiepin, Doxepin, Fluoxetine, Fluvoxamine, Imipramine, Nortriptyline, Paroxetine, Sertraline, Trazodone.
- Antipsychotic drugs - Chlorpromazine, Haloperidol, Clozapine, Haloperidol, Mesoridazine, Trifluoperazine.
- Other drugs - Amiodarone, Chloramphenicol, Clofazimine, Lamotrigine, Metoclopramide, Metronidazole, Tinidazole.

April 2002



COPING WITH BREASTFEEDING CHALLENGES

Some women breastfeed without problems. But for many women, it is natural for minor problems to arise at first, especially if it is their first time breastfeeding. The good news is that most problems can be overcome with a little help and support. Some more serious problems may require you to see your health care provider, and it is important to know the warning signs for these situations. The following section discusses some of the most common problems that can arise posing a challenge to breastfeeding, and some solutions to overcome them.

1. Challenge: Sore Nipples

Poor latch-on and positioning are the major causes of sore nipples because the baby is probably not getting enough of the areola into his or her mouth, and is sucking mostly on the nipple. If you have sore nipples you are more likely to postpone feedings because of the pain, but this can lead to your breasts becoming overly full or engorged, which can then lead to plugged **milk ducts** in the breast. If your baby is latched on correctly and sucking effectively, he/she should be able to nurse as long as he/she likes without causing any pain. **REMEMBER: IF IT HURTS, IT ISN'T RIGHT!**

In order to prevent challenges from arising, remember the three most important things about breastfeeding:

1. Nurse early and often
2. Nurse with the nipple and areola in the baby's mouth, not just the nipple.
3. Breastfeed on demand.

Solution:

- Check the positioning of your baby's body and the way she latches on and sucks. You should find that it feels better right away once the baby is positioned correctly.
- Don't delay feedings, and try to relax so your let-down reflex comes easily. You also can hand-express a little milk before beginning the feeding so your baby doesn't clamp down harder, waiting for the milk to come.
- If your nipples are very sore, it can help to change positions each time you nurse. This puts the pressure on a different part of the nipple.
- After nursing, you can also express a few drops of milk and gently rub it on your nipples. Human milk has natural healing properties and emollients to soothe them. Also try letting your nipples air-dry after feeding, or wear a soft-cotton shirt.

- Wearing a **nipple shield** during nursing will not relieve sore nipples. They actually can prolong soreness by making it hard for the baby to learn to nurse without the shield.
- Avoid wearing bras or clothes that are too tight and put pressure on your nipples.
- Change nursing pads often to avoid trapping in moisture.
- Also avoid using soap or ointments that contain astringents or other chemicals on your nipples. Make sure to avoid products that must be removed before nursing. Washing with clean water is all that is necessary to keep your nipples and breasts clean.
- Making sure you get enough rest, eating healthy foods, and getting enough fluids also can help the healing process. If you have very sore nipples, you can ask your health care provider about using non-aspirin pain relievers.
- If your sore nipples last or you suddenly get sore nipples after several weeks of unproblematic nursing, you could have a condition called *thrush*, a fungal infection that can form on your nipples from the milk. Other signs of thrush include itching, flaking and drying skin, tender or pink skin. The infection can form in the baby's mouth from having contact with your nipples, and it appears as little white spots on the inside of the cheeks, gums, or tongue. It also can appear as a diaper rash on your baby that won't go away by using regular diaper rash ointments. If you have any of these symptoms or think you have thrush, contact your health care provider. You can get medication for your nipples and for your baby.

IMPORTANT: If you still have sore nipples after following the above tips, you may need to see someone who is trained in teaching breastfeeding, like a lactation consultant or peer counselor.

2. Challenge: Normal Fullness versus Engorgement (Sore Breasts)

Anything that reduces the amount of time your baby is at your breast or postpones regular nursing can cause overly full or engorged breasts. A breastfeeding mother usually feels a normal fullness (slight heaviness that is not painful) in her breasts, especially in the first couple of days when her milk comes in. But overly full or engorged breasts can be very painful and feel very hard. You also may have breast swelling, tenderness, warmth, redness, throbbing and flattening of the nipple. Engorgement sometimes also causes a low-grade fever and can be confused with a breast infection. Engorgement is the result of the milk building up, and usually happens during the third to fifth day after birth. This slows circulation and when blood and lymph move through the breasts, fluid from the blood vessels can seep into the breast tissues. All of the following can contribute to engorgement:

- poor latch-on or positioning
- trying to limit feeding times or infrequent feedings,
- giving supplementary bottles of water, juice, formula, or breast milk,
- overusing a pacifier,
- changing the breastfeeding schedule to return to work or school,

- the baby changes the nursing pattern by beginning to sleep through the night or breastfeed more often during one part of the day and less often at other times,
- having a baby that has a weak suck who is not able to nurse effectively
- fatigue, stress, or anemia in the mother
- an overabundant milk supply
- nipple damage
- use of a nipple shield during feedings
- breast abnormalities.

Engorgement can lead to plugged ducts or a breast infection, so it is important to try to prevent it before this happens. If treated properly, engorgement should only usually last for one to two days

Solution:

- Minimize engorgement by making sure the baby is latched on and positioned correctly at the breast, and nurse frequently after birth. Allow the baby to nurse as long as he/she likes, as long as he/she is latched on well and sucking effectively. In the early days when your milk is coming in, you should awaken a sleepy baby every 2 to 3 hours to breastfeed. Breastfeeding often on the affected side helps to remove the milk, keep it moving freely, and prevent the breast from becoming overly full.
- Avoid supplementary bottles and overusing pacifiers.
- Try hand expressing or pumping a little milk to first soften the breast, areola, and nipple before breastfeeding, or massage the breast and apply heat. You also may want to wear a **breast shell** (not a nipple shield) in your bra for about 30 minutes prior to breastfeeding to help soften the areola and bring out the nipple.
- Cold compresses in between feedings can help ease pain. Some women use cabbage leaves to soothe engorgement. Although their effectiveness has not been proven, many women find them soothing. You can use either refrigerated or room temperature leaves. Make sure to cut a hole for your nipple, apply the leaves directly to your breasts, and wear them inside your bra. Remove them when they wilt and replace with fresh leaves.
- If you are returning to work, try to pump your milk on the same schedule that the baby breastfed at home.
- Get enough rest and proper nutrition and fluids.
- Also try to wear a well-fitting, supportive bra that is not too tight.

IMPORTANT: If your engorgement lasts for more than 2 days even after treating it, contact your health care provider.

3. Challenge: Plugged Ducts versus Breast Infection (Mastitis)

It is common for many women to have a plugged duct in the breast during the period she breastfeeds. A plugged milk duct feels tender, sore, or like a lump in the breast. It is not accompanied by a fever or other symptoms. It happens when a milk duct does not properly drain, becomes inflamed, pressure builds up behind the plug, and surrounding tissue becomes inflamed. A plugged duct usually only occurs in one breast.

A breast infection (mastitis), on the other hand, is soreness or a lump in the breast that is accompanied by a fever and/or flu-like symptoms, such as feeling run down or very achy. Some women with a breast infection also have nausea and vomiting. You also may have yellowish discharge from the nipple that looks like colostrum, or the breasts feel warm or hot to the touch. A breast infection can occur when other family members have a cold or the flu, and like a plugged duct, it usually only occurs in one breast.

Solution:

Treatment for plugged ducts and breast infections is similar.

- Soreness can be relieved by applying heat to increase circulation to the sore area and to speed its healing. You can use a heating pad or a small hot-water bottle. It also helps to massage the area, starting behind the sore spot. Use your fingers in a circular motion and massage toward the nipple.
- Breastfeed often on the affected side. This helps loosen the plug, keeps the milk moving freely, and the breast from becoming overly full. Nursing every two hours, both day and night on the affected side first can be helpful.
- Rest. Getting extra sleep or relaxing with your feet up can help speed healing. Often a plugged duct or breast infection is the first sign that a mother is doing too much and becoming overly tired.
- Wear a well-fitting supportive bra that is not too tight, since this can constrict milk ducts.
- **IMPORTANT:** If you do not feel better within 24 hours of trying these steps, and you still have a fever or your symptoms worsen, call your health care provider. You may need an antibiotic. Also, if you have a breast infection in which both breasts look affected, or there is pus or blood in the milk, red streaks near the area, or your symptoms came on severe and suddenly, see your health care provider right away.
- Even if you need an antibiotic, continuing to breastfeed during treatment is best for both you and your baby. Most antibiotics will not affect your baby through your breast milk.

4. Challenge: Thrush

Thrush (yeast) is a fungal infection that can form on your nipples or in your breast because it thrives on milk. The infection forms from an overgrowth of the *candida* organism. Candida usually exists in our bodies and is kept at healthy levels by the natural bacteria in our bodies. However, when the natural balance of bacteria is upset, candida can overgrow, causing an infection. Things that can cause thrush include: having an overly moist environment on your skin or nipples that are sore or cracked, taking antibiotics or birth control pills, having a diet that contains large amounts of sugar or foods with yeast, or having a chronic illness like HIV infection, diabetes, or anemia.

If you have sore nipples that last more than a few days even after you make sure your baby's latch and positioning is correct, or you suddenly get sore nipples after several weeks of unproblematic nursing, you could have thrush. Other signs of thrush include itching, flaking and drying skin, tender or pink skin. The infection also can form in the baby's mouth from having contact with your nipples, and appear as little white spots on the inside of the cheeks, gums, or tongue. It also can appear as a diaper rash (small red dots around a rash) on your baby that won't go away by using regular diaper rash ointments.

Solution:

- If you or your baby have any of these symptoms, contact your health care provider so you and your baby can be diagnosed.
- You can get medication for your nipples and for your baby. Medication for the mother is usually an ointment for the nipples, and the baby can be given a liquid medication for his/her mouth, and/or an ointment for the diaper rash.
- Thrush may take several weeks to cure, so it is important to try not to spread it. Don't freeze milk that you pump while you have thrush. Change disposable nursing pads often and wash the cloth pads thoroughly in hot soap and water. Also wash the baby's toys in hot soapy water if he puts them in his/her mouth while he has thrush.
- Wash your hands often, and wash your baby's hands often, especially if he or she sucks on his/her fingers.
- Make sure other family members are free of thrush or other fungal infections. If they have symptoms, get them treatment.

5. Challenge: Nursing Strike

A nursing strike is when your baby has been nursing well for months, then suddenly loses interest in breastfeeding and begins to refuse the breast. A nursing strike can mean several things are happening with your baby and that she or he is trying to communicate with you to let you know that something is wrong. Not all babies will react the same to different situations that can cause a nursing strike. Some will continue to breastfeed without a problem, others may just become fussy at the breast, and others will refuse the breast entirely. Some of the major causes of a nursing strike include:

- mouth pain from teething, a fungal infection like thrush, or a cold sore

- an ear infection, which causes pain while sucking
- pain from a certain nursing position, either from an injury on the baby's body or from soreness from an immunization
- being upset about a long separation from the mother or a major change in routine
- being distracted while nursing - becoming interested in other things around him or her
- a cold or stuffy nose that makes breathing while nursing difficult
- reduced milk supply from supplementing with bottles or overuse of a pacifier
- responding to the mother's strong reaction if the baby has bitten her
- being upset about hearing arguing or people talking in a harsh voice with other family members while nursing
- reacting to stress, overstimulation, or having been repeatedly put off when wanting to nurse.

If your baby is on a nursing strike, it is normal to feel frustrated and upset, especially if your baby is unhappy. It is important not to feel guilty or that you have done something wrong. Your breasts also may become uncomfortable as the milk builds up.

Solution:

- Try to express your milk on the same schedule as the baby used to breastfeed to avoid engorgement and plugged ducts.
- Try another feeding method temporarily to give your baby your milk, such as a cup, dropper, or spoon. Keep track of your baby's wet diapers to make sure he/she is getting enough milk (five to six per day).
- Keep offering your breast to the baby. If the baby is frustrated, stop and try again later. Try when the baby is sleeping or very sleepy.
- Try various breastfeeding positions.
- Focus on the baby with all of your attention and comfort him or her with extra touching and cuddling.
- Try nursing while rocking and in a quiet room free of distractions.

Special Situations and Breastfeeding

Some babies are born with conditions that may interfere with or make breastfeeding more difficult. However, in all of the following cases, breastfeeding is still best for the baby to thrive.

Jaundice

Jaundice is a condition that is common in many newborns. It appears as a yellowing of the skin and eyes and is caused by an excess of *bilirubin*, a yellow pigment that is a product in the blood. All babies are born with extra red blood cells that undergo a process of being broken down and eliminated from the body. Bilirubin levels in the blood can be high because of higher production of it in a newborn, an increased ability of the newborn intestine to absorb it, and a limited ability of the newborn liver to handle large amounts of it. Many cases of jaundice do not need to be treated—a health care provider will carefully monitor the baby's bilirubin levels. Sometimes infants have to be temporarily separated from the mother to receive special treatment with **phototherapy**. In these cases, breastfeeding may be discouraged and supplements or other fluids may be given to the baby. However, the American Academy of Pediatrics discourages against stopping breastfeeding in jaundiced babies and suggests continuing frequent breastfeeding, even during treatment. If your baby is jaundiced or develops jaundice, it is important to discuss with your health care provider all possible treatment options and share that you do not want to interrupt nursing (if this is at all possible).

Babies with Reflux

It is not unusual for babies spit up after nursing. Usually, babies can spit up and show no other signs of illness, and the spitting up disappears as the baby's digestive system matures. As long as the baby has six to eight wet diapers and at least two bowel movements in a 24 hour period (under six weeks of age), and your baby is gaining weight (at least 4 ounces a week) you can be assured your baby is getting enough milk.

However, some babies have a condition called *gastroesophageal reflux (GER)*, which occurs when the muscle at the opening of the stomach opens at the wrong times, allowing milk and food to come back up into the esophagus (the tube in the throat). Symptoms of GER can include:

- severe spitting up, or spitting up after every feeding, or hours after eating
- projectile vomiting, where the milk shoots out of the mouth
- inconsolable crying as if in discomfort
- arching of the back as if in severe pain
- refusal to eat or pulling away from the breast during feeding
- waking up frequently at night
- slow weight gain
- difficulty swallowing
- gagging or choking
- frequent red or sore throat

- frequent hiccuping or burping
- signs of **asthma, bronchitis, wheezing**, problems breathing, **pneumonia**, or **apnea**.

NOTE: Many healthy babies might have some of these symptoms and not have GER. But there are babies who might only have a few of these symptoms and have a severe case of GER. **Not all babies with GER spit up or vomit.**

Some babies with GER do not have a serious medical problem, but caring for them can be hard since they tend to be very fussy and wake up frequently at night. More severe cases of GER may need to be treated with medication if the baby, in addition to spitting up, also refuses to nurse, gains weight poorly or is losing weight, or has periods of gagging or choking.

If your baby spits up after every feeding and any of the other symptoms mentioned above, it is best to see your health care provider so your baby can be correctly diagnosed. Other than GER, your baby could have another condition that needs treatment. If there are no other signs of illness, he/she could just be sensitive to a food in your diet or a medication he/she's receiving. If your baby has GER, it is important to try to continue to breastfeed since breast milk still is more easily digested than formula. Try smaller, more frequent feedings, thorough burping, and putting the baby in an upright position during and after feedings.

April 2002



BREASTFEEDING MADE EASIER AT HOME AND AT WORK

Breastfeeding is a unique experience for each woman and her baby, and each woman has to find her own routine, setting, and positions that work best. Today, many mothers return to jobs outside of their homes after their babies are born, and the breastfeeding routine that they've set up while on maternity leave has to change. Many women continue to breastfeed successfully though, with the help of a breast pump. Whether you choose to stay at home to care for your baby, or choose to return to a job outside your home, here are some tips about breastfeeding and pumping to make breastfeeding easier and safe for you and your baby.

Before Your Baby is Born

Nipple Type

Before your baby is born, it is helpful to know what type of nipples you have. A *flat nipple* lies flat against the areola (darker circular area around the nipple) instead of protruding outward like a normal nipple. *Inverted nipples* seem pushed inward to the areola. Both flat nipples and inverted nipples can make correct latch-on more challenging for your baby since they are not easy for the baby to grab in his or her mouth. One solution is to wear a *breast shell* (a round plastic shell that fits around your breast) in your bra to create a moist environment around the nipple to help it protrude for easier latch-on. You can also wear the shell while breastfeeding to help your baby get the nipple in his or her mouth.



Regular, flat, and inverted nipples

Medications

Before the birth of your baby, know what medications you are taking or may have to take after the birth, and how they will affect your baby through your breast milk. Talk with your health care provider about their safety, and about possible alternative treatments that won't affect the baby. While breastfeeding, if you become ill and have to take medication, tell your health care provider that you are breastfeeding. It may be possible to temporarily pump and discard your breast milk while taking the medication. During this time, you can use previously stored breast milk or formula to feed your baby, but you will be keeping your breast milk supply at a level that will meet the baby's needs when your treatment is over.

Family Support

Fathers and other special support persons can be involved in the breastfeeding experience. Breastfeeding is more than a way to feed a baby, it becomes a lifestyle. While no one but the baby's mother can provide breast milk, it is helpful for the mother and the baby if the father or support person encourages this healthy relationship. Fathers or support persons play a major role in the breastfeeding experience by being sensitive and supportive. They can encourage breastfeeding when the mother is feeling tired or discouraged. They can affirm their love, approval, and appreciation for the mother's work and time that she puts into breastfeeding. They also can be good listeners and provide understanding to the mother's and baby's needs to accommodate breastfeeding in the home or when traveling. All of this support helps the mother feel better about herself and proud that she is giving her baby the best. Many people also feel warmth, love, and relaxation just from sitting next to mother and baby during breastfeeding. Fathers and support persons also can help when the mother begins to wean the baby from breastfeeding by giving emotional nourishment to the child through playing, cuddling, and giving a bottle/cup.

Pumping

No matter what type of job you have, if you go back to work after having your baby, it should be possible for you to take time to pump your breast milk. You can talk with your employer about why breastfeeding is important, why pumping is necessary, and how you plan to fit pumping into your work schedule. Pumping while away from your baby on the same schedule that he or she breastfed before returning work ensures that you keep up your milk supply to meet your baby's needs. If you are staying home to care for your baby, having an effective pump at home is also helpful. You can use it to help relieve engorgement, especially when your milk supply first comes in, or for when you need to be away from your baby for any amount of time, such as an evening out with your partner. If you have to temporarily take medication that may harm your baby, you can pump and discard your milk during this time.

- **Prepare for pumping *before* you go back to work.** Let your employer know that you are breastfeeding and explain that, when you're away from your baby, you will need to take breaks throughout the day to pump your milk to give to your baby at a later time. Ask where you can pump at work, and make sure it is a private, clean, quiet area. Also make sure you have somewhere to store the milk. Discuss how you plan to fit pumping into your workday. You can offer to work out a different schedule, such as coming in earlier or leaving a little later each day to make up for any lost work time, if this comes up as an issue. If your day care is close by to your job, you may be able to arrange to breastfeed your baby during work time. Make sure to discuss the benefits of breastfeeding with your employer, especially that breastfeeding mothers miss fewer days from work. If your direct supervisor cannot help you with your needs, you should be able to go to your Human Resources department to make sure you are accommodated.
- **Some mothers start pumping and storing their milk ahead of the time they will be returning to work in order to have a supply available for the first week when they are separated from the baby.** The number of times you will need to pump your milk depends on the length of time you are away from your baby. But, it is usually not best to go for more than three hours without removing some milk from your breasts. If you are leaving a very young baby who eats very often, you may have to pump your milk more often at first so that your breasts do not become uncomfortable or leak.
- **Expressing milk through pumping is a learned skill that's both physical and psychological.** It takes about the same time as breastfeeding, unless you are using a "double" automatic breast pump. The let-down reflex is important during pumping in order to express a good amount of milk. If you are having problems getting your milk to "let-down" at the start of pumping, you may find it helpful to have a picture of your baby close-by. You also can try other things to stimulate the let-down reflex, like applying a warm, moist compress to the breast, gently massaging the breasts, or just sitting quietly and thinking of a relaxing setting. Try to clear your head of stressful thoughts. Use a comfortable chair or pillows. Once you begin expressing your milk, think about your baby.
- **It is best to wash your hands before pumping your breast milk and to make sure the table or area where you are pumping is also clean.** Each time you are done pumping, it is best to thoroughly wash your pumping equipment with soap and water and let it air dry. This helps prevent germs from getting into the breast milk.

Storing Breast Milk

It is important to know the guidelines for storing breast milk properly so that you always give your baby fresh milk. Any container used to store milk should be clean and sterile. Always try to leave an inch or so from the milk to the top of the container since frozen milk expands. After pumping your milk, it is helpful to label the storage container. Always use the oldest dated milk first. Colostrum, or the first milk expressed in the first few days after delivery, can be stored at room temperature for up to 12 hours. Mature milk, or breast milk that comes in six days after the birth of your baby can be stored in the following ways:

At Room Temperature:

At 60 degrees for 24 hours
At 66-72 degrees for 10 hours
At 79 degrees to 4-6 hours

In the Refrigerator:

At 32 - 39 degrees for up to 8 days

In the Freezer:

In a freezer compartment contained within the refrigerator: up to 2 weeks In a self-contained freezer, either on top of or on the side of the refrigerator: 3 - 4 months In a deep freezer: 6 months to 1 year

*It is helpful to freeze the milk in small amounts, such as two to four ounces, so there is less waste and you can choose the amount of milk depending on the baby's hunger.

Bottles and Containers

You can store breast milk in bottles that fit directly onto your breast pump. After pumping, simply remove the pumping tubing, cover with the bottle lid, label the milk, and put it in the refrigerator. Many breast pump carrying cases also come with built-in, cooler-type compartments for storing ice pack and/or the freshly pumped bottles of milk. If used correctly, these do stay cold enough to leave your pumped milk in until you can get home to store the milk in the refrigerator or freezer.

Research is conflicting about the advantages and disadvantages of storing milk in glass versus plastic. However, glass bottles or containers are best for freezing breast milk because it offers the most protection from contamination. The second choice is clear, hard plastic, and last choice is the cloudy hard plastic containers. Wait to tighten the caps or lids until the milk is completely frozen.

Storage Bags

If you want to freeze your breast milk in bags, you can purchase storage bags that fit directly onto your breast pump and that are made for freezing milk. They are pre-sterilized, thick, have an area for labeling, and seal easily. After pumping, simply remove the pumping tubing, fold the bag over, making sure all air is out of the bag, and seal it. Make sure to label the bag with the date before freezing. When you want to use the milk, you can cut the storage bag with sterile scissors. If the storage bag has a built-in pouring spout, it is easy to pour the milk into a bottle. Other storage bags can be used in the kind of bottle that uses disposable liners, so there is no need to transfer the milk.

Thawing and Handling Stored Breast Milk

It is normal for stored breast milk to separate in its container into two parts, what looks like cream and then a lighter colored milk. Some human milk also varies in color and can be blueish, yellowish, or brownish. Just gently shake the milk before feeding to mix it back together.

Breast milk doesn't take long to thaw or warm up. Never place a bottle or bag of breast milk in the microwave. Milk doesn't heat uniformly in the microwave, so you won't have control over the temperature and could burn your baby. All you have to do is hold the bottle or frozen bag of milk in under cool and then warm water for a few minutes. If warm running water is not available, you can heat up a pan of water on the stove. Remove the pan from the heat and place the container into the warm water. Never warm the container directly on the stove. Shake the milk, then test it on your wrist to see if it's warm enough for your baby.

Once frozen milk is thawed, it can be refrigerated, but not re-frozen.

Breastfeeding and Pumping Accessories

Clothing

- **You don't have to buy a new wardrobe to breastfeed.** While no extravagant "breastfeeding clothing" is necessary, you should try to wear clothing that will make breastfeeding and/or pumping easier. Wearing jumpers or one-piece dresses are not as convenient as a blouse or two-piece outfits. Nursing bras and nursing clothes, like blouses that have hidden openings near your chest are available but are not necessary.
- **You can buy disposable or cloth breastfeeding pads to line your bra.** These help prevent any leaking from soaking through your blouse. The disposable pads can be thrown away, and the cloth pads can be tossed in the washing machine and used again.
- **If you want to breastfeed your baby in public, you can use a receiving blanket or a breastfeeding blanket that discreetly covers your chest and your baby's upper body.**

Pumps

- **There are several types of breast pumps available.** Some are manual, or require you to use your hand and wrist to squeeze a bulb-type device to pump the milk. There also are automatic pumps that run either on battery or hook up to an electrical outlet and automatically simulate your baby's natural sucking action. These pumps are easier to use, and do not require a lot of practice or skill. They can collect more milk in less time, however they cost a lot more than manual pumps (around \$150 to \$200).
- **Think about your pumping needs before you buy a breast pump.** If you plan on going back to work, either full-time or part-time, it may be worth investing in a automatic pump. If you plan to never be away from your baby except for an occasional outing, you may want to use a hand pump or hand express the milk without a pump. Both hand expressing and using a hand pump require practice, skill, strength and coordination.
- **Pumps also come in "single" or "double" meaning you can either pump the milk from one breast or from both breasts at the same time.** Most electric pumps are double pumps, but you can choose whether to pump one or both breasts at the same time.

The National Women's Health Information Center (NWHIC)

A Project of the Office on Women's Health in the U.S. Department of Health and Human Services

- **Although many breast pumps look different, they all operate in basically the same way.** Each comes with a plastic "shell" that covers your nipple and breast, that is also connected to tubing that carries the milk from your breast to a bottle or bag that collects the milk. Experts caution against using the "bicycle horn" type of pump because it cannot be sterilized, can be ineffective, and can cause damage to breast tissue.
- **Most automatic pumps come in convenient, discreet carrying cases that match your other accessories you may carry to work, such as your purse or briefcase.**
- If you purchase a pump, **make sure to follow the manufacturer's instructions for cleaning and caring for the equipment.**
- Some pumps can be purchased at baby supply stores or general department stores, but **most high-grade, professional quality automatic pumps have to be purchased or rented from a lactation consultant at a local hospital, or from a breastfeeding organization.**

April 2002